In the claims: The claims are as follows:

1. (Currently amended) A method by which a radio receiver, in receiving a signal transmitted over a radio channel, estimates the impulse response of the radio channel based on a received training sequence included in the received signal, the method comprising calculating a correlation sequence based on averaging symbols of the received training sequence by selecting two portions of the received training sequence of a same length and averaging respective symbols of the two portions of the received training sequence to form an average sequence and optionally adding to the average sequence another portion of the training sequence, and performing a plurality of correlations using the calculated correlation sequence.

2. (Previously presented) A method for estimating the impulse response of a radio channel by which a radio receiver receives a received signal including a received training sequence for which the radio receiver knows a corresponding replica training sequence, the received training sequence including a received correlation sequence having a first end and a second end, and also including an additional part at the second end, with the additional part the same as a corresponding portion at the first end of the received correlation sequence, and likewise for the replica training sequence so that it includes a replica correlation sequence, the method comprising:

a) calculating a correlation sequence using the received training sequence, by averaging a predetermined number of symbols from the first end of the received correlation sequence with a predetermined number of corresponding symbols from the additional part at the second end of the received training sequence; and

b) performing a set of correlations of the calculated correlation sequence with the replica training sequence, the set

of correlations including a first correlation in which the calculated correlation sequence is aligned with the replica correlation sequence and including subsequent correlations performed with the calculated correlation sequence shifted for each next correlation by one or more symbols from the position in the immediately preceding correlation, so as to provide information useful in estimating the channel impulse response.

3. (Previously presented) A receiver, operative according to the method of claim 1.

4. (Previously presented) A receiver, operative according to the method of claim 2.

5. (Previously presented) A telecommunication system, including a base transceiver station and a user equipment, both of which include a receiver, wherein both receivers are operative according to the method of claim 1.

6. (Previously presented) A telecommunication system, including a base transceiver station and a user equipment, both of which include a receiver, wherein both receivers are operative according to the method of claim 2.

7. (Currently amended) A computer program product comprising: a computer readable storage structure embodying computer program code thereon for execution by a computer processor in a receiver, wherein said computer program code includes instructions for performing ~~steps of~~ a method according to claim 1.

8. (Currently amended) A computer program product comprising: a computer readable storage structure embodying computer program code thereon for execution by a computer processor in a receiver, wherein said computer program code includes instructions for

performing ~~the steps of~~ a method according to claim 2.

9. (Currently amended) An apparatus, comprising a processor, configured to:

calculate a correlation sequence based on averaging symbols of a received training sequence resulting from a transmitted training sequence by selecting two portions of the received training sequence of a same length and averaging respective symbols of the two portions of the received training sequence to form an average sequence and optionally adding to the average sequence another portion of the training sequence; and

perform a plurality of correlations using the calculated correlation sequence.

10. (Previously presented) An apparatus as in claim 9, wherein the received training sequence includes a received correlation sequence having a first end and a second end, and also includes an additional part at the second end, with the additional part the same as a corresponding portion at the first end of the received correlation sequence, wherein the processor is configured to calculate the correlation sequence by averaging a predetermined number of symbols from the first end of the received correlation sequence with a predetermined number of corresponding symbols from the additional part at the second end of the received training sequence.

11. (Previously presented) An apparatus as in claim 10, wherein for performing the plurality of correlations using the calculated correlation sequence, the processor is configured to perform a set of correlations of the calculated correlation sequence with a replica of the transmitted training sequence, with the set of correlations including a first correlation in which the calculated correlation sequence is aligned with the replica correlation

sequence and including subsequent correlations performed with the calculated correlation sequence shifted for each next correlation by one or more symbols from the position in the immediately preceding correlation.

12. (Previously presented) A mobile station, comprising an apparatus as in claim 9, and a receiver for receiving the transmitted training sequence.

13. (Previously presented) A telecommunication system, including a base transceiver station and a mobile station, wherein both the base station and the mobile station include a receiver, and wherein both receivers are as in claim 12.

14. (Currently amended) An apparatus, comprising:

means for calculating a correlation sequence based on averaging symbols of a received training sequence resulting from a transmitted training sequence by selecting two portions of the received training sequence of a same length and averaging respective symbols of the two portions of the received training sequence to form an average sequence and optionally adding to the average sequence another portion of the training sequence; and

means for performing a plurality of correlations using the calculated correlation sequence.

15. (Previously presented) An apparatus as in claim 14, wherein the received training sequence includes a received correlation sequence having a first end and a second end, and also includes an additional part at the second end, with the additional part the same as a corresponding portion at the first end of the received correlation sequence, wherein the means for calculating the correlation sequence is configured to average a predetermined number of symbols from the first end of the received correlation

sequence with a predetermined number of corresponding symbols from the additional part at the second end of the received training sequence.

16. (Previously presented) An apparatus as in claim 15, wherein the means for performing a plurality of correlations is configured to perform a set of correlations of the calculated correlation sequence with a replica of the transmitted training sequence, with the set of correlations including a first correlation in which the calculated correlation sequence is aligned with the replica correlation sequence and including subsequent correlations performed with the calculated correlation sequence shifted for each next correlation by one or more symbols from the position in the immediately preceding correlation.

17. (New) A method as in claim 1, wherein the two portions are a first portion of a correlation sequence included in the received training sequence and a second portion from a part of the received training sequence additional to the correlation sequence.

18. (New) An apparatus as in claim 9, wherein the two portions are a first portion of a correlation sequence included in the received training sequence and a second portion from a part of the received training sequence additional to the correlation sequence.

19. (New) An apparatus as in claim 14, wherein the two portions are a first portion of a correlation sequence included in the received training sequence and a second portion from a part of the received training sequence additional to the correlation sequence.